

**Remarks**

Claims 14-33 are pending in this application.

Before discussing the rejection, Applicants request that the Examiner indicate why the rejection was made final in view of the minor amendment entered in claim 20 (the only amendment entered in the application in view of the 35 U.S.C. 112 rejection). The new grounds of rejection bear no relation to the amendment entered in claim 20 in response to the Examiner's observation that the claim was not complete. Applicants respectfully request that the finality of the rejection be withdrawn and a non-final rejection issued.

Before discussing the rejections under 35 U.S.C. 102(b), Applicants deem it prudent to set forth what they consider to be their invention. Applicants' invention is an aqueous dispersion useful for hydrophobic finishing of fibers and flat textiles. The aqueous dispersion comprises a mixture of at least two different copolymers (a) and (b) and an emulsifier in an aqueous medium. Copolymer (a) is a copolymer containing residues of esters of substituted or unsubstituted acrylic acid with branched or unbranched alkyl alcohols containing from 8 to 22 carbon atoms and residues of esters of substituted or unsubstituted acrylic acid with alkyl alcohols containing from 1 to 6 carbon atoms and a copolymer (b) which comprises residues of esters of substituted or unsubstituted acrylic acid with a perfluorinated alcohol and esters of a substituted or unsubstituted acrylic acid with an alcohol containing from 1 to 6 carbon atoms. The aqueous dispersion also contains an emulsifier.

The aqueous dispersion of the present invention is a mixture of two separate polymer dispersions, one of which polymer dispersion contains polymer-containing residues of an ester of substituted or unsubstituted acrylic acid with a perfluorinated alcohol and residues of a substituted or unsubstituted acrylic acid with a 1-6 carbon atom alcohol (polymer b).

The second polymer in the aqueous dispersion comprises residues of the substituted or unsubstituted acrylic acid with a C<sub>1-6</sub> carbon atom alcohol and residues of a substituted or unsubstituted acrylic acid with a C<sub>8-C22</sub> carbon atom alcohol.

The two dispersions are formed independently, then mixed to form the dispersion of the present invention.

Claims 14-33 stand rejected under 35 U.S.C. 102(b) as anticipated by Maekawa et al. (EP 1 146 103 A1). Applicants respectfully submit that Maekawa et al. neither teaches nor suggests the present invention.

To be a reference on which a rejection under 35 U.S.C. 102(b) can be based, the reference must teach each and every limitation in the claims. Maekawa et al. fails as a reference on which a rejection under 35 U.S.C. 102(b) can be based in that it fails to teach or suggest a dispersion containing copolymers (a) and copolymers (b) which form the dispersion of the present invention. Maekawa et al. is directed to an aqueous dispersion of a single polymer which contains residues of at least two monomers, one of which is an ester of a substituted or non-substituted acrylic acid with a perfluorinated alcohol and residues of a monomer of an ester of a substituted or an unsubstituted acrylic acid with a C<sub>1-22</sub> alcohol. The composition also contains an emulsifier and is made by mixing the monomers with the surfactant and homogenizing the mixture with a pressure homogenation mechanism to form an emulsion. The emulsion is then polymerized to form a copolymer of the monomers utilized to form the copolymer. However, there is neither teaching nor suggestion that two different copolymers, one of which does not contain residues of an acrylic acid ester of a perfluorinated alcohol.

Applicants respectfully submit that Maekawa et al. neither teaches nor suggests the present invention since it teaches that one single copolymer be present in the composition. However, if a second polymer is present in a composition, the polymer is not named and its properties would be unknown. Applicants therefore respectfully submit that Maekawa et al. neither teaches nor suggest the present invention.

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Applicants submit that to be reference on which a rejection under 35 U.S.C. 102(b) can be based, the reference must teach each and every limitation of the claims. Applicants submit that Maekawa et al. fails as a reference on which a rejection under 35 U.S.C. 102(b) can be based in that the composition must contain only a single polymer comprising residues of a substituted or unsubstituted acrylic acid ester of a perfluorinated alcohol and the residues of a substituted or unsubstituted acrylic acid ester with a C<sub>1-22</sub> alkyl alcohol. Applicants respectfully submit that Maekawa et al. does not teach nor suggest the composition of the present invention which requires a mixture of two separate and distinct copolymers which copolymers have special features. Applicants therefore respectfully submit that a rejection under 35 U.S.C. 102(b) over Maekawa et al. is untenable and respectfully request that the rejection be reconsidered and withdrawn.

Maekawa et al. clearly does not disclose: (1) a mixture of two distinct copolymers formed from residues of differing monomers. (2) Maekawa et al. does not teach a presence of the two different distinct polymers as claimed in claim 15 and 16.

Maekawa et al. fails to disclose a dispersion wherein the ratio by weight of the copolymers (a) to copolymers (b) is 5:1 to 1:3, or as in claim 18 a ratio of 3:1 to 1:1.

Claim 19 is not disclosed and is clearly patentable over Maekawa et al. since Maekawa et al. does not disclose an aqueous dispersion wherein at least 50% by weight of the constituent units in copolymer (a) is provided by monomers of the formula (I).

Claim 20 is clearly patentable over the teachings of Maekawa et al. since Maekawa et al. fails to teach a copolymer wherein at least 70% by weight of the constituent units in the copolymer (a) is provided by monomers of the formula (I).

Claim 21 is not anticipated by Maekawa et al. since there is neither teaching nor suggestion of a dispersion containing two different polymers wherein at least 50% by weight of the constituent units in the copolymer (b) is provided by monomers of the

formula (II).

Claim 22 is clearly patentable over the teachings of Maekawa et al. since there is neither teaching nor suggestion of a dispersion of two different and distinct polymers, one of which polymer (a) comprises comonomer units formed from monomers selected from the group consisting of methyl, ethyl, n-propyl, i-propyl and butyl esters of acrylic or methacrylic acid with the comonomer (I).

Claim 23 is not anticipated by Maekawa et al. since Maekawa et al. fails to teach or suggest a dispersion containing two distinct copolymer structures with a nonionic or a cationic emulsifier.

Claim 24 is not anticipated by Maekawa et al. since Maekawa et al. contains only a single copolymer type and would not teach an aqueous dispersion wherein a sum of the weight of copolymers (a) and (b) comprises from 0.1% to 50% by weight of the dispersion, based on the total weight of the dispersion.

Claim 25 is not anticipated by Maekawa et al. since there is no teaching or suggestion in Maekawa et al. for an aqueous dispersion of two distinct copolymers wherein a sum of the weight of copolymers (a) and (b) comprises from 1% to 35% by weight of the dispersion, based on a total weight of the dispersion.

Claim 26 is not anticipated by Maekawa et al. since Maekawa et al. fails to teach an aqueous dispersion of two distinct copolymers which contain emulsifiers in a quantity of 0.1 to 10% by weight based on the total weight of the dispersion.

Claim 27 is not anticipated by Maekawa et al. since Maekawa et al. fails to teach a dispersion of two separate and distinct copolymers, which dispersion further comprises a water-miscible organic solvent.

Claim 28 is not anticipated by Maekawa et al. since Maekawa et al. does not contain any teachings of an aqueous dispersion of two distinct individual copolymers, which dispersion comprises a member selected from the group of solvents disclosed in claim.

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Claim 29 is not anticipated by Maekawa et al. since Maekawa et al. fails to teach or suggest a fiber or a flat textile comprising a hydrophobic finish comprising a dry polymer dispersion of claim 14 which requires a mixture of two different and distinct copolymers.

Claim 30 is not anticipated by Maekawa et al. since Maekawa et al. fails to teach an aqueous dispersion of claim 14 which contains two separate and distinct copolymers and an emulsifier in a quantity of from 0.5% to 5% by weight based on the total weight of the dispersion.

Claim 31 is not anticipated by Maekawa et al. since Maekawa et al. does not teach the dispersion of the present invention containing separate copolymers (a) and copolymer (b) which contain constituent units provided by monomers of the formula (II) where n is a number of 6 to 10.

Claim 32 is not anticipated by Maekawa et al. since Maekawa et al. does not disclose a dispersion of two different and distinct copolymers when the ratio by weight of the two copolymers in the dispersion is from 5:1 to 1:3. Maekawa et al. cannot teach the aqueous dispersion of claim 32 since Maekawa et al. provides a dispersion containing only a single copolymer.

Claim 33 is not anticipated by Maekawa et al. for the same reasons as claim 32 is not anticipated by Maekawa et al.

For the above reasons, Applicants respectfully submit that the Examiner's rejection of all the claims in the application under 35 U.S.C. 102(b) over Maekawa et al. is untenable and Applicants respectfully request that the rejection be reconsidered and withdrawn.

At page 4 of the Official Action the Examiner states:

The Examiner respectfully disagrees with the above arguments because the polymer of Maekawa et al. comprising monomers of alkyl(meth)acrylates have C1-20, methyl methacrylate, octadecyl methacrylate, 2-ethylhexylmethacrylate, and fluoropolymers of formula I

read on the copolymers of the present composition claims. The present claims do not require that the copolymers are separate. The fact remains that the prior art teaches each of the components of the instantly claimed copolymers. The burden is on the applicant to prove that unexpected results would be obtained from 2 separate copolymers vs. a single polymer of Maekawa et al."

The Examiner states that the polymer of Maekawa et al. comprising monomers of alkyl(meth)acrylates having C1-20 methyl methacrylate, octadecyl methacrylate, 2-ethylhexylmethacrylate and fluoropolymers of the formula I read on the copolymers of the present composition claims. Applicants respectfully request that the Examiner re-read claim 14 as presently in the application.

Claim 14 is directed to an aqueous dispersion comprising: (a) which is a copolymer comprising constituent units provided by monomers of the formula (I) and constituent units provided by monomers of the formula (Ia). Neither of the required comonomers of the formula (I) or (Ia) contain a fluorine moiety. Only copolymer (b) is formed by copolymerizing fluorine-containing acrylates with acrylates of the formula (Ia). Applicants respectfully submit that there is no teaching in Maekawa et al. to provide an aqueous dispersion containing the non-fluorine moiety containing copolymer and a fluorine moiety containing copolymer along with the emulsifier. Applicants therefore respectfully submit that a rejection of the claims in the present application over Maekawa et al. under 35 U.S.C. 102(b) is untenable and respectfully request that the rejection be reconsidered and withdrawn.

The Examiner states that the present claims do not require that the copolymers are separate. Applicants have drafted the claims within the limitation of the English language to claim an aqueous dispersion containing copolymer (a) and copolymer (b). Applicants do not know of a better way to set forth that the aqueous dispersion must contain the two copolymers as set forth in claim 14. Applicants request that the Examiner reconsider her understanding of the claims presently in the application.


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Applicants invite the Examiner's attention to the requirements of a rejection under 35 U.S.C. 102(b). To support a rejection under 35 U.S.C. 102(b), the Examiner must point to a teaching in a single reference relied upon which teaches each and every limitation in the claims. Applicants submit that the Examiner has not pointed out in Maekawa et al. where a dispersion containing two copolymers, one of which copolymers is not required to contain a fluorine moiety. Applicants submit that they are under no burden to prove that unexpected results would be obtained from two separate copolymers vs. a single polymer of Maekawa et al.

Applicants have attached the requested set of declarations by the inventors in the English language. Authority is given to the USPTO to deduct any required fee from their Deposit Account Number 50-1177.

In view of the above discussion, Applicants respectfully request favorable consideration and allowance of the application.

Respectfully submitted,

  
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